World Flash on Basic Research

THE NEWEST VERSION OF THE FACTS AND FIGURES ON PUBLICATION OUTPUT AND RELATIVE CITATION IMPACT OF 100 COUNTRIES 1981-1985

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Szilard: I am going to write down all that is going on these days in the project. I am just going to write down the facts - not for anyone to read, just for God.

Bethe: Don't you think God knows the facts?

Szilard: Maybe he does, but not this version of the facts.

(Leo Szilard, His version of the Facts. Selected Recollections and Correspondence, Ed.: Spencer R. Weart & Gertrud Weiss SZILARD, MIT Press, Cambridge, Ma., 1978, p. 149.)

Comments to Tables 1-5

Previous basics: Details and additional information on the scientometric principles and procedures underlying the data outlined in this flash can be found in the following publications:


A previous version of the facts and figures on the same topic referring to the 1978-1980 period has been published in 1987:


Data sources: as main data sources, annual cumulations of the magnetic tapes of the Science Citation Index (SCI) database of the Institute for Scientific Information (ISI, Philadelphia, PA, USA) were used.

Source and citation periods: original papers, reviews, notes and letters published in the SCI source journals in 1981-1985 were considered source items, and citations to them in the same five years period were counted.

Selection and classification of countries: all countries, which produced at least 50 first authored papers in the period under study were included. (Papers were assigned to countries according to the corporate address of the first author as indicated in the byline of the publication.)

Indicator definitions: "Publication output" is self-explaining. Indicators of the type "Citation rate per publication" are to be interpreted as mentioned above, i.e., considering the same five years both as source and citation periods. Thus, the effective citation period varies from 0 to 5 years. The indicators so obtained provide a complex measure of medium range citation impact and citation immediacy for a considerably large population of papers even for small countries. Expected citation rates were calculated from the average citation rates of the journals involved. Actual citation rates were the results of direct citation counts. Relative citation rate means the ratio of actual to expected citation rates.

Reliability of indicators and rankings: most of the figures reported here can be credited by acceptable statistical reliabilities or confidence limits. It is however, feared that enumerating these data here would make this flash completely overquantified. Instead it is stated as a simple rule of thumb, that no indicator or rank position which is based on less than 100 publications be taken as statistically reliable. This does not mean, of course, that all such values are meaningless. However, they must be handled with care, and have